

## **GENERAL EDUCATION AND TRAINING CERTIFICATE**

## **NQF LEVEL 1**

## **AET LEVEL 4 SITE-BASED ASSESSMENT**

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| **LEARNING AREA** | **:** | **MATHEMATICS AND MATHEMATICAL SCIENCES** |
| **CODE** | **:** | **MMSC4** |
| **TOOL** | **:** | **INVESTIGATION** |
| **TIME** | **:** | **3 HOURS** |
| **MARKS** | **:** | **50** |

**This assessment tool consists of 4 pages.**

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| **INSTRUCTIONS AND INFORMATION FOR THE TEACHER.** |  |  |

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| 1. | This task is set on:   * US ID 7452 * US ID 7448 |  |  |

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| 2. | This investigation should be done in pairs. Each member should however write his/her own work. |  |  |

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| 3. | ACTIVITY 1 is marked using a rubric and ACTIVITY 2 is marked using a memorandum. |  |  |

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| 4. | A class discussion may be conducted before or during completion of the task. |  |  |

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| 5. | Learners can complete their work at home. |  |  |

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| Marking rubric for **ACTIVITY 1.1.1–1.1.7** |  |  |

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| **CRITERIA** | **LEVEL** | | | | **MARKS** |
|  | **MARKS 0** | **MARKS 1–2** | **MARKS 3–4** | **MARKS 5** |  |
| Correctness of calculations in QUESTION 1.1.1–1.1.3 | NO calculations made for QUESTION 1.1.1–1.1.3 | Made major (not squaring the values) mistakes in calculations | Made minor (squaring the values but not getting accurate answer) mistakes in calculations | Made no errors. Completed accurately |  |
| Question 1.1.4: Drawing a **right angled triangle** with a dimension of 5:12:13 | Make no attempt to draw a right-angled triangle | Drawing a right angled triangle with 2 wrong dimensions | Draw a right angled triangle with one wrong dimension (other dimensions right) | Accurate drawing and exactly the same dimension |  |
| Question 1.1.4: Showing calculations following procedure from QUESTION 1.1.1–1.1.3. Using the values 5:12:13 | NO calculations are made | Made errors in calculation (not squaring the values) | Made minor (squaring the values but not getting accurate answers) mistakes in calculations | Calculations are clearly and completed |  |
| Question 1.1.6: Drawing **any triangle** with the dimensions 9 : 10 : 13 | Made NO attempt to draw a triangle | Drawing a triangle with 2 wrong dimensions | Draw a right angled triangle with one wrong dimension (other dimensions right) | Accurate drawing and exactly the same dimension |  |
| Question 1.1.6: Showing calculations following procedure from QUESTION 1.1.1–1.1.3 using the values 9 : 10 : 13 | NO calculations are made | Made errors in calculation (not squaring the values) | Made minor (squaring the values but not getting accurate answers) mistakes in calculations | Calculations are clearly and completed |  |
| Question 1.1.7: Identification/ Understanding of a theorem, and mathematical reasoning in conclusion | NO theorem and no logical reasoning | Identified the theorem but did not reason | Identified and described theorem and able to reach a consistent conclusion | Identified and described the theorem correctly and offer and proper logical reasoning |  |
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| 2.1 | 2.1.1 | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Side length of square (cm) | 1 | 2 | 3 | 4 | 5 | 6 | | Number of small squares | 1 | 4 | 9 | 16 | 25 | 36 | | Perimeter of large square (cm) | 4 | 8 | 12 | 16 | 20 | 24 | |  |  |
|  |  | 1 mark for each correct column (number of small squares and perimeter of large square)🗸 |  | (5) |

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|  | 2.1.2 | The number of small squares needed for each squares is equal to the side length times itself🗸🗸 | Correct explanation | (2) |

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|  | 2.1.3 | (a)  (b) | Rule for number of small squares *= n*2🗸  Rule for perimeter of large square = 4*n*🗸 | Each correct formula |  |
|  |  |  |  | (2 x 1) | (2) |

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|  | 2.1.4 | 🗸 | Correct substitution  Correct answer | (2) |

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|  | 2.15 | Perimeter 🗸 | Correct substitution  Correct answer | (2) |

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|  | 2.1.6 | 🗸  large squares🗸 |  | (2) |
|  |  |  |  | **[15]** |

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| **TOTAL:** |  | **50** |